

What is claimed is:

1. An abrasive material for abrading human or animal tissue comprising substantially non-round bioinert glass or ceramic particles.
2. An abrasive material for abrading human or animal tissue comprising bioinert glass particles which comprise between about 50% and about 85% by weight silicon dioxide ( $\text{SiO}_2$ ), and between about 0% and about 25% by weight boron oxide ( $\text{B}_2\text{O}_3$ ), between about 0% and about 20% by weight aluminum oxide ( $\text{Al}_2\text{O}_3$ ), and between about 0% and about 15% by weight sodium oxide ( $\text{Na}_2\text{O}$ ).
3. The abrasive material of claim 2, further comprising between about 0% and about 15% by weight potassium oxide ( $\text{K}_2\text{O}$ ).
4. The abrasive material of claim 2, further comprising compounds selected from the group consisting of potassium oxide ( $\text{K}_2\text{O}$ ), calcium oxide ( $\text{CaO}$ ), magnesium oxide ( $\text{MgO}$ ), barium oxide ( $\text{BaO}$ ), titanium oxide ( $\text{TiO}$ ), strontium oxide ( $\text{SrO}$ ), zirconium oxide ( $\text{ZrO}_2$ ) and fluorine (F) in amounts up to about 15% by weight individually or in combination.
5. The abrasive material of claim 2, further comprising color-imparting elements selected from the group consisting of Ag, Au, V, Cr, Co, Cu, Er, Nd, Fe, Mn, Ni, Sm, Eu, U and Se in amounts less than about 5% by weight individually or in combination.
6. The abrasive material of claim 1, further comprising a coating.
7. The abrasive material of claim 2, further comprising a coating.
8. The abrasive material of claim 7, wherein the coating is selected from the group consisting of anti-microbial agents, lotions, vitamins and color-imparting substances.
9. The abrasive material of claim 8, wherein the coating comprises an anti-microbial agent.
10. The abrasive material of claim 9, wherein the anti-microbial agent possesses anti-bacterial properties and is present in an amount to eliminate or reduce the presence of bacteria.

11. The abrasive material of claim 7, wherein the coating is applied by a silanization process.
12. The abrasive material of claim 7, wherein the coating is applied by a spray coating process.
13. The abrasive material of claim 2, further comprising ions selected from the group consisting of Ag, Zn, or Cu, wherein said abrasive material possesses anti-microbial properties.
14. The abrasive material of claim 13, wherein said abrasive material comprises Ag ions.
15. The abrasive material of claim 2, further comprising AgNO<sub>3</sub>.
16. The abrasive material of claim 1, wherein said abrasive material is produced by a sol-gel process.
17. The abrasive material of claim 2, wherein said abrasive material is produced by a sol-gel process.
18. A method for abrading human or animal tissue comprising contacting the tissue with the abrasive material of claim 1 or 2.
19. A method for abrading human or animal tissue comprising contacting the tissue with the abrasive material of claim 1 or 2, wherein the abrasive effect is superior to that provided by aluminum oxide abrasives.
20. A method for abrading human or animal tissue comprising contacting the tissue with the abrasive material of claim 1 or 2, wherein the abrasive effect is superior to that provided by substantially round glass beads.
21. A method for preparing an abrasive material for abrading human or animal tissue comprising admixing the abrasive material of claim 1 or 2 with a coating material.
22. The method of claim 21, wherein the coating material is selected from the group consisting of anti-microbial agents, lotions, vitamins and color-imparting substances.

23. A method for operating dermabrasion equipment comprising using the equipment to apply an abrasive material comprising bioinert glass or ceramics to a human or animal tissue, whereby the dermabrasion equipment clogs less than with conventional aluminum oxide materials.
24. The abrasive material of claim 1, wherein the particles consist essentially of silica.